

WHAT IS CLAIMED IS:

1. An electroluminescence display device comprising:

a substrate;

an insulating film over the substrate; and

a crystalline semiconductor film comprising silicon formed on

the insulating film,

wherein the insulating film has at least one asperity of less than 30Å in height on the upper surface thereof.

2. An electroluminescence display device according to claim 1,

wherein the electroluminescence display device further comprises a gate insulating film on the crystalline semiconductor film and a gate electrode on the gate insulating film.

3. An electroluminescence display device according to claim 1,

wherein the insulating film comprises silicon oxide.

4. An electronic appliance comprising the electroluminescence display device according to claim 1, wherein the electronic appliance is selected from the group consisting of a TV camera, a head-mount

display, a car navigation, a projection display, a video camera, a personal computer, and a cellular telephone.

5. An electroluminescence display device comprising:

a substrate;

an insulating film over the substrate, the insulating film having at least one asperity of less than 30 Å in height on the upper surface thereof; and

a crystalline semiconductor film comprising silicon formed on the insulating film,

wherein the asperity has a width more than 100 Å.

6. An electroluminescence display device according to claim 5,

wherein the electroluminescence display device further comprises a gate insulating film on the crystalline semiconductor film and a gate electrode on the gate insulating film.

7. An electroluminescence display device according to claim 5,

wherein the insulating film comprises silicon oxide.

8. An electroluminescence display device according to claim 5, wherein crystals of the crystalline semiconductor film extend in parallel with the insulating film.

9. An electronic appliance comprising the electroluminescence display device according to claim 5, wherein the electronic appliance is selected from the group consisting of a TV camera, a head-mount display, a car navigation, a projection display, a video camera, a personal computer, and a cellular telephone.

10. An electroluminescence display device comprising:  
a substrate;  
an insulating film over the substrate, the insulating film having at least one asperity of less than 30Å in height on the upper surface thereof;  
a crystalline semiconductor film comprising silicon formed on the insulating film,  
wherein crystals of the crystalline semiconductor film extend in parallel with the insulating film.

11. An electroluminescence display device according to claim 10, wherein the electroluminescence display device further comprises a gate insulating film on the crystalline semiconductor film and a gate electrode on the gate insulating film.

12. An electroluminescence display device according to claim 10, wherein the insulating film comprises silicon oxide.

13. An electroluminescence display device according to claim 10, wherein the asperity has a width more than 100 Å.

14. An electronic appliance comprising the electroluminescence display device according to claim 10, wherein the electronic appliance is selected from the group consisting of a TV camera, a head-mount display, a car navigation, a projection display, a video camera, a personal computer, and a cellular telephone.

15. A static random access memory comprising:

a substrate;

an insulating film over the substrate;

at least one word line;

at least one bit line intersecting perpendicularly to the word line;

a crystalline semiconductor film comprising silicon at an intersection of the word line and the bit line, formed on the insulating film;

a interlayer insulating film on the crystalline semiconductor film; and

an electrode over a drain region of the crystalline semiconductor film with the interlayer insulating film interposed therebetween, wherein the insulating film has at least one asperity of less than 30Å in height on the upper surface thereof.

16. An electroluminescence display device according to claim 15, wherein the electroluminescence display device further comprising a gate insulating film on the crystalline semiconductor film and a gate electrode on the gate insulating film.

17. An electroluminescence display device according to claim 15, wherein the insulating film comprises silicon oxide.

18. An electronic appliance comprising the static random access memory according to claim 15, wherein the electronic appliance is selected from the group consisting of a TV camera, a head-mount display, a car navigation, a projection display, a video camera, a personal computer, and a cellular telephone.

19. A static random access memory comprising:

    a substrate;

    an insulating film over the substrate, the insulating film having at least one asperity of less than 30Å in height on the upper surface thereof; and

    a crystalline semiconductor film comprising silicon at an intersection of the word line and the bit line, formed on the insulating film;

    a interlayer insulating film on the crystalline semiconductor film; and

    an electrode over a drain region of the crystalline semiconductor film with the interlayer insulating film interposed therebetween, wherein the asperity has a width more than 100 Å.

20. An electroluminescence display device according to claim 19, wherein the electroluminescence display device further comprising a gate insulating film on the crystalline semiconductor film and a gate electrode on the gate insulating film.

21. An electroluminescence display device according to claim 19, wherein the insulating film comprises silicon oxide.

22. A static random access memory according to claim 19, wherein crystals of the crystalline semiconductor film extend in parallel with the insulating film.

23. An electronic appliance comprising the static random access memory according to claim 19, wherein the electronic appliance is selected from the group consisting of a TV camera, a head-mount display, a car navigation, a projection display, a video camera, a personal computer, and a cellular telephone.

24. A static random access memory comprising:

a substrate;

an insulating film over the substrate, the insulating film having at least one asperity of less than 30Å in height on the upper surface thereof;

a crystalline semiconductor film comprising silicon at an intersection of the word line and the bit line, formed on the insulating film;

an interlayer insulating film on the crystalline semiconductor film; and

an electrode over a drain region of the crystalline semiconductor film with the interlayer insulating film interposed therebetween, wherein crystals of the crystalline silicon semiconductor film extend in parallel with the insulating film.

25. An electroluminescence display device according to claim

24, wherein the electroluminescence display device further comprising a gate insulating film on the crystalline semiconductor film and a gate electrode on the gate insulating film.

26. An electroluminescence display device according to claim 24, wherein the insulating film comprises silicon oxide.

27. A static random access memory according to claim 24, wherein the asperity has a width more than 100 Å.

28. An electronic appliance comprising the static random access memory according to claim 24, wherein the electronic appliance is selected from the group consisting of a TV camera, a head-mount display, a car navigation, a projection display, a video camera, a personal computer, and a cellular telephone.

29. A static random access memory comprising:

- a substrate;
- an insulating film over the substrate;
- at least one word line;
- at least one bit line intersecting perpendicularly to the word line;
- at least one a crystalline semiconductor film comprising silicon at an intersection of the word line and the bit line, formed on the insulating film;;

an interlayer insulating film over the crystalline semiconductor film; and

a polysilicon film over the interlayer insulating film, the polysilicon film electrically connected with the crystalline semiconductor film,

wherein the insulating film has at least one asperity of less than 30Å in height on the upper surface thereof.

30. An electroluminescence display device according to claim 29, wherein the electroluminescence display device further comprising a gate insulating film on the crystalline semiconductor film and a gate electrode on the gate insulating film.

31. An electroluminescence display device according to claim 29, wherein the insulating film comprises silicon oxide.

32. An electronic appliance comprising the static random access memory according to claim 29, wherein the electronic appliance is selected from the group consisting of a TV camera, a head-mount display, a car navigation, a projection display, a video camera, a personal computer, and a cellular telephone.

33. A static random access memory comprising:

a substrate;

an insulating film over the substrate, the insulating film having at least one asperity of less than 30Å in height on the upper surface thereof; and

at least one a crystalline semiconductor film comprising silicon at an intersection of the word line and the bit line, formed on the insulating film;

a interlayer insulating film over the crystalline semiconductor film;

a polysilicon film over the interlayer insulating film, the polysilicon film electrically connected with the crystalline semiconductor film; and

...  
wherein the asperity has a width more than 100 Å.

34. An electroluminescence display device according to claim 33, wherein the electroluminescence display device further comprising a gate insulating film on the crystalline semiconductor film and a gate electrode on the gate insulating film.

35. An electroluminescence display device according to claim 33, wherein the insulating film comprises silicon oxide.

36. A static random access memory according to claim 33, wherein crystals of the crystalline semiconductor film extend in parallel with the substrate.

37. An electronic appliance comprising the static random access memory according to claim 33, wherein the electronic appliance is selected from the group consisting of a TV camera, a head-mount display, a car navigation, a projection display, a video camera, a personal computer, and a cellular telephone.

38. A static random access memory comprising:  
...  
a substrate;  
an insulating film over the substrate, the insulating film having at least one asperity of less than 30Å in height on the upper surface thereof;  
at least one a crystalline semiconductor film comprising silicon at an intersection of the word line and the bit line, formed on the insulating film;

a interlayer insulating film over the crystalline semiconductor film;

a polysilicon film over the interlayer insulating film, the polysilicon film electrically connected with the crystalline semiconductor film; and

wherein crystals of the crystalline semiconductor film extend in parallel with the substrate.

39. An electroluminescence display device according to claim 38, wherein the electroluminescence display device further comprising a gate insulating film on the crystalline semiconductor film and a gate electrode on the gate insulating film.

40. An electroluminescence display device according to claim 38, wherein the insulating film comprises silicon oxide.

41. A static random access memory according to claim 38, wherein the asperity has a width more than 100 Å.

42. An electronic appliance comprising the static random access memory according to claim 38, wherein the electronic appliance is selected from the group consisting of a TV camera, a head-mount display, a car navigation, a projection display, a video camera, a personal computer, and a cellular telephone.